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(51) International Patent Classification ⁵ : C08L 53/02, B32B 27/00, A41D 19/04, A41B 19/04	A3	(11) International Publication Number: WO 94/20574 (43) International Publication Date: 15 September 1994 (15.09.94)
(21) International Application Number: PCT/US94/01955 (22) International Filing Date: 25 February 1994 (25.02.94) (30) Priority Data: 08/024,559 1 March 1993 (01.03.93) US (71) Applicant: BAXTER INTERNATIONAL INC. [US/US]; One Baxter Parkway, Deerfield, IL 60015 (US). (72) Inventors: PLAMTHOTTAM, Sebastian, S.; 1496 Moonridge Court, Upland, CA 91784 (US). CALLOS, Bessie, E.; 3015 Maricotte Drive, Palmdale, CA 93550 (US). (74) Agents: HANNAFAN, Kay, H., P. et al.; One Baxter Parkway, Deerfield, IL 60015 (US).	(81) Designated States: CA, JP, KR, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i> (88) Date of publication of the international search report: 24 November 1994 (24.11.94)	
(54) Title: SEQUENTIAL COPOLYMER BASED GLOVES (57) Abstract <p>The present invention provides improved powder-free gloves having improved cleanliness as well as desired ergonomics over current natural rubber latex gloves. By controlling the formulation used to construct the gloves, a wide range of physical performance, aging resistance, as well as high cleanliness can be achieved. To this end, the present invention provides a powder-free glove constructed from a sequential copolymer. In an embodiment, the sequential copolymer is chosen from the group consisting of: poly(styrene-b-isoprene-b-styrene); poly(styrene-b-butadiene-b-styrene); poly(styrene-b-ethylene butylene-b-styrene); poly(styrene-b-ethylene propylene-b-styrene); radial and teleblock copolymers of the type (SI)_x, (SB)_x, and the like; and graft copolymers.</p>		

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 94/01955

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 5 C08L53/02 B32B27/00 A41D19/04 A61B19/04

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 IPC 5 C08L B32B A41D A61B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	BE,A,852 480 (ARBROOK INC.) 15 September 1977	1,2,4,5
X	see claims 1,8,13,18; example 2	7,9-13, 15-20
X	--- EP,A,0 488 021 (TACTYL TECHNOLOGIES) 3 June 1992	1,2,7,9
X	see column 7, line 51 - line 52; claims 1,15	10, 15-17,20
X	--- FR,A,2 333 019 (SHELL INTERNATIONALE) 24 June 1977	1,2,4,5
X	see page 5, line 28 - line 36; claims	7-9
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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* "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

* "&" document member of the same patent family

Date of the actual completion of the international search

28 June 1994

Date of mailing of the international search report

19. 10. 94

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 94/01955

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PATENT ABSTRACTS OF JAPAN vol. 010, no. 148 (C-350) 29 May 1986 & JP,A,61 009 448 (MITSUBISHI K.K.K.) 17 January 1986 see abstract ---	1,2,7
X	PATENT ABSTRACTS OF JAPAN vol. 8, no. 168 (C-236) 3 August 1984 & JP,A,59 068 362 (SEIKISUI KAGAKU K.K.K.) 18 April 1984 see abstract ---	1,2,7
X	DATABASE WPI Section Ch, Week 9203, Derwent Publications Ltd., London, GB; Class A83, AN 92-020334 'Gloves for workers ...' & JP,A,3 269 104 (OKURA INDUSTRIAL K.K.) 29 November 1991 see abstract -----	1,2

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 94/ 01955

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

See annex further information Form PCT/ISA/210

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest.

☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/210

1. Claims : 1, 2, 4, 5, 7, 9-20
Powder-free glove constructed from sequential copolymer chosen from the group consisting of: poly(styrene-b-isoprene-b-styrene); poly(styrene-b-butadiene-b-styrene); poly(styrene-b-ethylene butylene-b-styrene); poly(styrene-b-ethylene propylene-b-styrene); radial and teleblock copolymers of the type (SI) x^1 and (SB) x^1 and the like.
2. Claims : 1, 2-4, 8-20
Powder-free glove constructed from sequential copolymer chosen from the group consisting of graft copolymers
3. Claims : 1, 6, 8-20
Powder-free glove constructed from sequential copolymer including an acrylic polymer.

INTERNATIONAL SEARCH REPORT

Information on patent family members

L. National Application No

PCT/US 94/01955

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
BE-A-852480	15-09-77	US-A- 4070713	31-01-78
		AT-B- 366255	25-03-82
		AU-B- 505085	08-11-79
		AU-A- 2293877	07-09-78
		CA-A- 1074051	25-03-80
		CH-A- 614617	14-12-79
		DE-A, C 2710540	22-09-77
		FR-A, B 2344399	14-10-77
		GB-A- 1541155	21-02-79
		JP-C- 1284839	09-10-85
		JP-A- 52113083	21-09-77
		JP-B- 60006655	19-02-85
		NL-A- 7702854	20-09-77
		SE-B- 431506	13-02-84
		SE-A- 7702974	18-09-77
EP-A-0488021	03-06-92	US-A- 5112900	12-05-92
		CA-A- 2055931	29-05-92
		JP-A- 6025505	01-02-94
FR-A-2333019	24-06-77	US-A- 4006116	01-02-77
		AT-B- 347680	10-01-79
		AU-B- 504675	25-10-79
		AU-A- 1993076	01-06-78
		BE-A- 848405	17-05-77
		CA-A- 1074484	25-03-80
		CH-A- 625817	15-10-81
		DE-A- 2653383	02-06-77
		GB-A- 1552928	19-09-79
		JP-C- 1302787	14-02-86
		JP-A- 52065551	31-05-77
		JP-B- 59031541	02-08-84
		NL-A- 7613068	31-05-77
		SE-B- 415841	03-11-80
		SE-A- 7613133	27-05-77